Paper No. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAMIJI KAMAKURA, NORIYOSHI TANAKA, YUJI BABA, KIMIYOSHI NAMIWA, YUKIO TATSUMI and MASATO NAMIKI

Appeal No. 1997-0042
Application No. 07/992,177

HEARD: February 24, 2000

Before PAK, WALTZ, and KRATZ, Administrative Patent Judges.

WALTZ, Administrative Patent Judge.

**DECISION ON APPEAL**

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 3 through 5, 8 and 9, which are the only claims remaining in this application.

According to appellants, the invention is directed to a refrigerant composition comprising a fluorocarbon coolant and a lubricant compound which is a specified polyoxyalkylene

glycol monomethylether (Brief, page 2). Claim 3 is illustrative of the subject matter on appeal and a copy of this claim is attached as an Appendix to this decision.

The examiner has relied upon the following reference as evidence of obviousness:

Sasaki et al. (Sasaki) 4,948,525 Aug. 14, 1990

Claims 3-5, 8 and 9 stand rejected under 35 U.S.C. § 103 as unpatentable over Sasaki (Answer, page 3). We *reverse* the examiner's rejection for reasons which follow.

**OPINION**

The examiner finds that Sasaki discloses a lubricating oil composition for a refrigerator using 1,1,1,2-tetrafluoroethane coolant where the base oil is a polyoxyalkylene glycol with the formula $R_1$-$(OR_2)_m$-OH (Answer, page 3). The examiner further finds that Sasaki does *not* specifically teach two limitations from claim 3 on appeal, namely, that $R_1$ is methyl and that an ethylene oxide group is always next to the hydroxyl [hydrogen] terminal (*Id.*). The examiner concludes that it would have been obvious to one of

ordinary skill in the art to choose $R_1$ as methyl since Sasaki teaches this selection at column 3, line 50 (*Id.*). The examiner also concludes that it would have been obvious to one of ordinary skill in the art that the ethylene oxide group "may be next to the hydroxyl [hydrogen] group" because Sasaki teaches that the 2-4 carbon alkylene group is either random or block copolymerized (Answer, sentence bridging pages 3-4).

Appellants argue that the claimed compositions are not sufficiently similar to those specifically disclosed by Sasaki to render the claimed subject matter *prima facie* obvious (Brief, page 10).

Sasaki discloses base oils for refrigerator oil compositions where $R_1$ of the specified polyoxyalkylene glycol monoethers formula may be an alkyl group having 1-18 carbon atoms (column 3, lines 40-48). Sasaki specifically lists eighteen alkyl groups included in $R_1$ (including methyl), with eight groups listed as preferred (also including methyl, see column 3, lines 50-55).[1] Of the eight values listed for $R_2$, Sasaki teaches that four values are preferred (including

[1]As discussed *infra*, Sasaki also discloses a monomethyl ether base oil in Example 15, Table 1, columns 9-10.

ethylene and propylene, see column 3, line 56-column 4, line 15). Sasaki also teaches that the -$OR_2$- group may be derived from a random or block copolymer prepared from oxyalkylene groups having different numbers of carbon atoms and that a ratio “"” (number of -$OR_2$- groups where $R_2$ is an ethylene group/m in the molecule) be in the range of 0 to 0.8 (column 4, lines 15-24).

The examiner has found that Sasaki does not “specifically teach ... that an ethylene oxide group is always next to the hydroxyl terminal.” (Answer, page 3). The composition recited in claim 3 on appeal requires that “the end group at the hydrogen terminal is an oxyethylene group” (see claim 3 on appeal). The examiner has not provided any factual support for the conclusion that “[i]t would have been obvious ... to choose the ethylene oxide be [sic] next to the hydroxyl [hydrogen] terminal as the reference teaches that the 2-4 carbon atom alkylene group is either random or block copolymerized and thus the ethylene oxide group *may* be next to the hydroxyl group.” (Answer, sentence bridging pages 3-4, emphasis added). The examiner has not provided evidence or convincing reasons why the random or block copolymerization of

the alkylene oxide group would have rendered the claimed limitation obvious to one of ordinary skill in the art. If the examiner is relying on a theory of "inherency," the examiner must provide basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the prior art. "The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Oelrich,* 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981). *See also In re Robertson,* 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Appellants have also presented evidence to show that the claimed subject matter possesses unexpectedly improved properties (Brief, pages 11-18, discussing the Declarations under 37 CFR
§ 1.132 filed by Tatsumi, executed on Oct. 8, 1993, and filed by Namiki et al. (Namiki), executed on Oct. 26, 1994). Contrary to the examiner's assertion on page 6 of the Answer, the Namiki Declaration compares the closest prior art (see Example 15 of Sasaki, the only example with a monomethyl

ether, corresponding to Sample 10 of the Namiki Declaration). The examiner states that the Namiki Declaration does not compare the effect that the ethylene oxide group being next to the hydrogen terminal has on the physical properties of the lubricant (Answer, pages 5-6). However, as discussed above, the examiner has not established that this claimed limitation is suggested by the applied prior art.

The examiner has also stated that the Tatsumi Declaration is not commensurate in scope with the claimed subject matter (Answer, page 5). However, the examiner has not addressed the sufficiency of the combined showing of representative examples presented in both the Tatsumi and Namiki Declarations.

We determine, based on the totality of the record, considering the arguments and evidence presented by appellants and the examiner, that the preponderance of evidence weighs in favor of unobviousness of the claimed subject matter. *See In re Oetiker,* 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Merchant,* 575 F.2d 865, 868, 197 USPQ 785, 787 (CCPA 1978). Accordingly, the rejection of the claims on appeal under 35 U.S.C. § 103 is reversed.

The decision of the examiner is reversed.

**REVERSED**

CHUNG K. PAK )
Administrative Patent Judge )
)
)
)

| | | |
|---|---|---|
| | ) | BOARD OF PATENT |
| THOMAS A. WALTZ | ) | APPEALS |
| Administrative Patent Judge | ) | AND |
| | ) | INTERFERENCES |
| | ) | |
| | ) | |
| | ) | |
| PETER F. KRATZ | ) | |
| Administrative Patent Judge | ) | |

lp

Appeal No. 1997-0042
Application No. 07/992,177

OLSON & HIERL
20 NORTH WACKER DRIVE
STE. 3000
CHICAGO, IL  60606

APPENDIX

Claim 3. A refrigerant composition comprising a fluorinated hydrocarbon coolant and at least one lubricant compound of the formua:

$$CH_3O(AO)_m(CH_2CH_2O)_nH$$

wherein

AO is individually selected from the group consisting of oxyethylene and oxypropylene,

m is a positive number in the range of 1 through 50 inclusive, provided that when m is 1, AO is oxypropylene and when m is greater than 1, (AO)m is a polymeric difunctional grouping selected from among members of the class consisting of (a) polymeric groupings of oxypropylene groups and (b)polymeric groupings each consisting of both at least one oxyethylene group and at least one oxypropylene group,

n is a positive number in the range of 1 through 10 inclusive,

the end group at the hydrogen terminal is an oxyethylene group, and

the total content of oxyethylene groups is in the range of 5 through 60 weight percent based on total compound weight,

the weight ratio of said coolant to said lubricant compound ranging from 1:99 to 99:1.

***Leticia***

Appeal No. 1997-0042
Application No. 07/992,177

APJ WALTZ

APJ KRATZ

APJ PAK

DECISION: REVERSED
Send Reference(s): Yes No
or Translation (s)
Panel Change: Yes No
Index Sheet-2901 Rejection(s):

Prepared: May 9, 2001

Draft Final

3 MEM. CONF. Y N

OB/HD GAU

PALM / ACTS 2 / BOOK
DISK (FOIA) / REPORT